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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,054	03/31/2004	Che-Hsiung Hsu	UC0419USNA	7931

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EXAMINER	
WEBB, GREGORY E	
ART UNIT	**PAPER NUMBER**
1751	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/815,054	HSU ET AL.	
	Examiner	Art Unit	
	Gregory E. Webb	1751	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *07 December 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

3/1/07

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 12/7/06 have been fully considered but they are not persuasive.

2. The applicant's main argument is that none of the prior art references teach non-aqueous dispersions of the specifically claimed polymer.

3. The examiner disagrees with this statement and presents the following teachings to support this:

4. In US 20020038999, Cao et al teach the following:

> [0118] In the case where it is desired to cast the layer from a non-aqueous **solution or dispersion** the bulk polymer may be selected from, for example liquefiable polyethylenes, isotactic polypropylene, polystyrene, poly(vinylalcohol), poly(ethylvinylacetate), polybutadienes, polyisoprenes, ethylenevinylene-copolymers, ethylene-propylene copolymers, poly(ethyleneterephthalate), poly(butyleneterephthalate) and nylons such as nylon 12, nylon 8, nylon 6, nylon 6.6 and the like, polyester materials, polyamides such as polyacrylamides and the like.

5. Similarly, in US 20020036291, Parket et al teach the following

[0130] In the case where it is desired to cast the layer from a non-aqueous solution or dispersion the bulk polymer may be selected from, for example liquefiable polyethylenes, isotactic polypropylene, polystyrene, poly(vinylalcohol), poly(ethylvinylacetate), polybutadienes, polyisoprenes, ethylenevinylene-copolymers, thylene-propylene copo 1 ymers, poly(ethyleneterephthalate), poly(butyleneterephthalate) and nylons such as nylon 12, nylon 8, nylon 6, nylon 6.6 and the like, polyester materials, polyamides such as polyacrylamides and the like.

6. And finally, US 20020031602, Zhang teaches the following:

[0121] In the case where it is desired to cast the layer from a non-aqueous solution or dispersion the bulk polymer may be selected from, for example liquefiable polyethylenes, isotactic polypropylene, polystyrene, poly(vinylalcohol), poly(ethylvinylacetate), polybutadienes, polyisoprenes, ethylenevinylene copolymers, ethylene-propylene copolymers, poly(ethyleneterephthalate), poly(butyleneterephthalate) and nylons such as nylon 12,

nylon 8, nylon 6, nylon 6.6 and the like, polyester materials, polyamides such as polyacrylamides and the like.

7. In each of these references a bulk polymer and the conductive polymer are mixed with a solvent to form a non-aqueous dispersion which would include the conductive polymer and would therefore meet not only the composition claims, but also the method claims.

8. The examiner agrees the remainder of the references fail to teach the applicant's non-aqueous dispersion limitation and those rejections are herein withdrawn.

9. Finally, based on the applicant's amendments to the claims the following rejections are made:

Claim Rejections - 35 USC § 102

10. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

11. Claims 1-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Cao, Yong (US20020038999).

Concerning the non-aqueous and the dispersion, Cao, Yong teaches the following:

> [0118] In the case where it is desired to cast the layer from a **non-aqueous solution or dispersion** the bulk polymer may be selected from, for example liquefiable polyethylenes, isotactic polypropylene, polystyrene, poly(vinylalcohol), poly(ethylvinylacetate), polybutadienes, polyisoprenes, ethylenevinylene-copolymers, ethylene-propylene copolymers, poly(ethyleneterephthalate), poly(butyleneterephthalate) and nylons such as nylon 12, nylon 8, nylon 6, nylon 6.6 and the like, polyester materials, polyamides such as polyacrylamides and the like. (*emphasis added*)

Concerning the conductive polymer, conductive and the polymers, Cao, Yong teaches the following:

> [0011] Thus, there is a need for a formulation of high resistivity **conductive polymer**s such as PANI(ES) for use in high efficiency pixelated polymer emissive displays. Conductive **polymers** with resisitivity greater than 10.sup.4 ohm-cm is preferred; more preferably in excess of 10.sup.5 ohm-cm; and still more preferred in excess of 10.sup.6 ohm-cm. To be useful in polymer emissive displays, the high resisitivity **conductive polymer** layer should give long lifetime without significant current leakage between neighboring pixels. (*emphasis added*)

Concerning the preferred conductive polymer, most preferred conductive polymer and the thiophene, Cao, Yong teaches the following:

> [0066] When the terms "**polyaniline**" or PANI are used herein, they are used generically to include substituted and unsubstituted materials, as well as the other equivalent conjugated conductive polymers such as **polypyrrole** or **polythiophene** or PEDT, unless the context is clear that only the specific nonsubstituted form is intended. It is also used in a manner to include any accompanying dopants, particularly acidic materials used to render the **polyaniline** conductive. (*emphasis added*)

12. Claims 1-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Parker, Ian D. (US20020036291).

Concerning the non-aqueous, Parker, Ian D. teaches the following:

> [0130] In the case where it is desired to cast the layer from a **non-aqueous solution or dispersion** the bulk polymer may be selected from, for example liquefiable polyethylenes, isotactic polypropylene, polystyrene, poly(vinylalcohol), poly(ethylvinylacetate), polybutadienes, polyisoprenes, ethylenevinylene-copolymers, thylene-propylene copo 1 ymers, poly(ethyleneterephthalate), poly(butyleneterephthalate) and nylons such as nylon 12, nylon 8, nylon 6, nylon 6.6 and the like, polyester materials, polyamides such as polyacrylamides and the like. (*emphasis added*)

Concerning the conductive polymer, conductive, preferred conductive polymer, most preferred conductive polymer and the thiophene, Parker, Ian D. teaches the following:

> [0078] When the terms "**polyaniline**" or PANI are used herein, they are used generically to include substituted and unsubstituted materials, as

> well as other equivalent conjugated **conductive polymer**s such as the **polypyrrole**s, or the **polythiophene**s, for example poly(ethylenedioxythioph- ene) ("PEDT") unless the context is clear that only the specific nonsubstituted form is intended. It is also used in a manner to include any accompanying dopants, particularly acidic materials used to render the **polyaniline conductive**. (*emphasis added*)

13. Claims 1-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Zhang, Chi (US20020031602).

Concerning the non-aqueous and the dispersion, Zhang, Chi teaches the following:

> [0121] In the case where it is desired to cast the layer from a **non-aqueous solution or dispersion** the bulk polymer may be selected from, for example liquefiable polyethylenes, isotactic polypropylene, polystyrene, poly(vinylalcohol), poly(ethylvinylacetate), polybutadienes, polyisoprenes, ethylenevinylene copolymers, ethylene-propylene copolymers, poly(ethyleneterephthalate), poly(butyleneterephthalate) and nylons such as nylon 12, nylon 8, nylon 6, nylon 6.6 and the like, polyester materials, polyamides such as polyacrylamides and the like. (*emphasis added*)

Concerning the conductive polymer, conductive, preferred conductive polymer, most preferred conductive polymer, thiophene, polymers and the product by process claims, Zhang, Chi teaches the following:

> [0068] The **buffer layer** 112 facilitates hole injection/transport. The **buffer layer** 112 may include **polyaniline** (PANI) or an equivalent conjugated **conductive polymer** such as polypyrole or **polythiophene**, most commonly in a blend with one or more non**conductive polymer**s. Polyaniline is particularly useful. Most commonly it is in the emeraldine salt (ES) form. Useful **conductive polyaniline**s include the homopolymer and derivatives usually as blends with bulk **polymers** (also known as host **polymers**). Examples of PANI are those disclosed in U.S. Pat. No. 5,232,631. The preferred PANI blend materials for this layer have a bulk conductivity of from about 10.sup.-4 S/cm to 10.sup.-11 S/cm. More preferred PANI blends have a bulk conductivity of from 10.sup.-5 S/cm to 10.sup.-8 S/cm. (*emphasis added*)

14. Claims 1-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Schwark, Dwight W. (US20030025106).

Concerning the non-aqueous and the product by process claims, Schwark, Dwight W. teaches the following:

> [0021] The present invention improves the manufacturability of imaging elements containing antistatic layers by employing novel coating compositions. For example, in certain manufacturing environments, drying capacities are limited, and the use of more volatile organic solvent rich coating formulations is required. Thus, to accommodate such manufacturing environments coating compositions employing **low water contents** are preferred. In addition, organic solvent rich coating compositions can eliminate the requirement of additional subbing layers on imaging supports and thereby lead to a simplification of the manufacturing process for the imaging element. Therefore, an aim of the present invention is to formulate coating compositions employing **organic solvents in combination with a minimal amount of water** that can provide electrically-**conductive layer**s without significant coloration. (*emphasis added*)

Concerning the conductive polymer, conductive, preferred conductive polymer, most preferred conductive polymer, thiophene and the sulfonic acid, Schwark, Dwight W. teaches the following:

> [0052] The electrically-**conductive polymer** in the following examples is a **polythiophene** derivative. It is a commercially available 1.22 wt % aqueous solution of a substituted **thiophene**-containing polymer supplied by Bayer Corporation as Baytron.TM. P. This electrically-**conductive polymer** is based on an ethylene dioxy**thiophene** in the presence of styrene **sulfonic acid**, henceforth referred to as EDOT. (*emphasis added*)

Concerning the ethers, Schwark, Dwight W. teaches the following:

> [0044] In the present invention, the substituted or unsubstituted thiophene-containing electrically-conductive polymer, polyanion compound and other components further comprising the coating composition, such as the film-forming binder, may be soluble or dispersible in the organic solvents and mixtures with minimal amounts of water. Examples of film-forming binders

> suitable for the present invention include, but are not limited to the following or mixtures of the following: cellulosic materials, such as cellulose esters and cellulose **ethers**; homopolymers or copolymers from styrene, vinylidene chloride, vinyl chloride, alkyl acrylate, alkyl methacrylate, acrylamide, methacrylamide, acrylonitrile, methacrylonitrile, vinyl ether, and vinyl acetate monomers; polyesters or copolyesters; polyurethanes or polyurethane acrylates; and polyvinylpyrrolidone. The preferred film-forming binder for the present invention is a cellulose ester and most preferred is cellulose diacetate. (*emphasis added*)

Concerning the method of making the dispersion, Schwark, Dwight W. teaches the following:

> 10. The coating composition of claim 1 further comprising addenda selected from the group consisting of surfactants, coating aids, **dispersing** aids, thickeners, coalescing aids, crosslinking agents or hardeners, soluble particle dyes, solid particle dyes, antifoggants, biocides, matte particles, lubricants, pigments and magnetic particles. (*emphasis added*)

15. Claims 1-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Tahon (US7108805).

Concerning the non-aqueous, Tahon teaches the following:

> According to a thirtieth embodiment of the method, according to the present invention, wherein **non-aqueous** solvent is added in a further process step and said further added **non-aqueous** solvent is a di- or polyhydroxy- and/or carboxy groups or amide or lactam group containing organic compound for example sugar alcohols, such as sorbitol, mannitol, saccharose and fructose, diethylene glycol, 1,2-propandiol and propylene glycol. (*emphasis added*)

Concerning the dispersion, Tahon teaches the following:

> In general the degree to which water can be removed in the process, according to the present invention, will depend upon the ability of the water to diffuse through the **dispersion** to the surface, which is dependent upon the viscosity of the PEDOT/PSS-**dispersion** under the evaporation conditions. However, the viscosity of PEDOT/PSS-**dispersion**s is strongly dependent upon the PEDOT/PSS-content in the final **dispersion**. Water-contents of 1 to 5% by weight can be easily realized with **dispersion**s of

> 0.8% by weight PEDOT/PSS with a weight ratio of PEDOT to PSS of 1:2.4, but just increasing the content of PEDOT/PSS, with a weight ratio of PEDOT to PSS of 1:2.4, to 1.0% by weight has such a strong influence on the viscosity of the **dispersion** that the easily realizable water-content increases to 10 to 15% by weight. (*emphasis added*)

Concerning the conductive polymer and the conductive, Tahon teaches the following:

> For many applications it is desirable that the coating medium of the **conductive polymer** dispersion be largely non-aqueous to aid surface wettability and reduce the energy requirements for drying. However, to avoid excessive dilution of the **conductive polymer**, large coating thicknesses and excessive use of solvent, the concentration of **conductive polymer** should be as high as possible. This can be realized by diluting aqueous dispersions with organic solvents, but this results in extreme dilution of the **conductive polymer** to 0.00588 to 0.0294% by weight, as disclosed in EP-A 1 081 546, EP-A 1 081 548 and EP-A 1 081 549. (*emphasis added*)

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-22 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-57 of copending Application No. 10669494. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims more broadly describe the possible selection of various conductive polymers whereas the prior art requires a specific conductive polymer.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

3. Claims 1-22 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-53 of copending Application No. 10669577. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims more broadly describe the possible selection of various conductive polymers whereas the prior art requires a specific conductive polymer.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

4. Claims 1-22 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-28 of copending Application No. 10802704. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims more broadly describe the possible selection of various conductive polymers whereas the prior art requires a specific conductive polymer.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

5. Claims 1-22 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-31 of copending Application No. 10802341. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims more broadly describe the possible selection of various conductive polymers whereas the prior art requires a specific conductive polymer.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

6. Claims 1-22 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-23 of copending Application No. 10802138. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims more broadly describe the possible selection of various conductive polymers whereas the prior art requires a specific conductive polymer.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

7. Claims 1-22 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-23 of copending Application No. 10803114. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims more broadly describe the possible selection of various conductive polymers whereas the prior art requires a specific conductive polymer.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory E. Webb whose telephone number is 571-272-1325. The examiner can normally be reached on 9:00-17:30 (m-f).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglass McGinty can be reached on (571)272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

3/1/07

Gregory E. Webb
Primary Examiner
Art Unit 1751

gew